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(54) Title: METHOD OF PRODUCING MATCHED COATING COMPOSITION AND DEVICE USED THEREFOR

(57) Abstract: The present invention is directed to a method and device that use spectral measurements of the color of a target coating on a substrate, such as auto body being matched. The method utilizes pigment mixture models to produce a matched coating composition that when applied as a coating matches in appearance with that of the target coating, while also providing other desired coating properties, such as durability, gloss and adhesion. Various colorant combinations are analyzed to produce approximate spectral curves that substantially match the spectral curve of the target color. A colorant optimization function is then used to identify the optimum formula. This function utilizes acceptability factors, such as closeness of match based on a color tolerance formula, metamerism indices, shape of spectral curves, cost, and pigment durability. Each factor is weighted according to the specific end-use of the composition. The method of the present invention is well suited for producing automotive refinish paints used in automotive refinish applications wherein the undamaged portion of the autobody is color matched to produce a matched refinish paint that can be then applied over a repaired portion of autobody.